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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/769,760 | 01/26/2001 | Yoshihiro Tsuchiya | 108337 | 7395 |

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EXAMINER

LETSCHER, GEORGE J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2653

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/769,760

Applicant(s)

TSUCHIYA ET AL.

Examiner

George J. Letscher

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-34, 47 and 51-55 is/are pending in the application.
- 4a) Of the above claim(s) 34, 52-53, 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-33, 47, 51 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Claims 34, 52-53 and 55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species or group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.
2. Applicant's election with traverse of the product/method and species in Paper No. 7 is acknowledged. The traversal is on the ground(s) that it would not pose a burden on Examiner to examine all the claims in the application. This is not found persuasive because the different species present a burden on Examiner due to a different search required by the other species.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international

application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 28-29, 31-33, 47, 51 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Pinarbarsi (US 6,268,985).

The aforementioned claims recite the following features, inter alia, disclosed in Pinarbarsi: a magnetic transducing thin film head and method of forming thereof having a nonmagnetic (NM) layer (204); a soft magnetic layer (208, 230) on one surface of the nonmagnetic layer; a ferromagnetic (FM) layer (212) on the other surface of the nonmagnetic layer; an antiferromagnetic (AFM) layer (218) on the ferromagnetic layer on the opposite side of the NM layer; an interlayer (224) formed in a layer which is at least the soft magnetic or FM layer with the interlayer containing at least one element in a group consisting of Mn, Cr, Ni, Cu, Rh, Ir and Pt. The NiFe interlayer is 1 nm in thickness. The interlayer has at least one of the elements (Fe) in the layer (CoFe) in which it is formed. The soft magnetic layer has a first soft layer (208) containing at least Ni and a second soft magnetic layer (230) containing at least Co. See Figures 12-13 of Pinarbarsi.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pinarbarsi in view of Fukuzawa et al (US 6,338,899).

The description of Pinarbarsi is in paragraph 5, supra.

Regarding claim 30, Pinarbarsi does not teach the interlayer having at least one element in a group of Oxygen (O) and Nitrogen (N).

Fukuzawa et al discloses a spin valve MR sensor having an interlayer (145) comprising at least one of O and N.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have furnished the MR head having an interlayer structure as shown by Pinarbarsi with the interlayer having at least of O and N as shown by Fukuzawa et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to have furnished the interlayer having at least of O and N as shown by Fukuzawa et al since one of ordinary skill in the art recognized that an oxidized or nitrided film enhanced the higher resistivity of the interlayer portion the interlayer is formed.

Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Letscher whose telephone number is (703) 305-7912.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4750.

George Letscher
February 24, 2003


George Letscher
Primary Examiner
AU 2653